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IS 12310 (1988): Flutter test film for 8 mm type S Audio reproducers, magnetic type [MED 32: Photographic Equipment]

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Indian Standard (Reaffirmed 2005)

SPECIFICATION FOR FLUTTER TEST FILM FOR 8 mm TYPE S AUDIO REPRODUCERS, MAGNETIC TYPE

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 1 *August* 1988

Indian Standard

SPECIFICATION FOR FLUTTER TEST FILM FOR 8 mm TYPE S AUDIO REPRODUCERS, MAGNETIC TYPE

0. FOREWORD

0.1 This Indian Standard was adopted by the Bureau of Indian Standards on 10 February 1988, after the draft finalized by the Cinematographic Equipment Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 Flutter test films are used for detection and measurement of flutter in motion picture audio reproducers. IS : 5264-1986* and IS : 7390-1986† specify the requirements of flutter test film for 16 mm and 35 mm motion picture sound reproducers. This standard specifies the requirements of flutter test film for 8 mm Type S motion picture magnetic audio reproducers which are generally of 2 types, namely, Type 18 and Type 24.

0.3 In the preparation of this standard, assistance has been derived from RP 62-1984 'Specification for flutter test film for 8 mm Type S audio reproducers, magnetic type' issued by the Society of Motion Picture and Television Engineers, United States of America (USA).

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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*Specification for 3 150 Hz flutter test film for 16 mm cinematograph projectors (*first revision*).

†Specification for 3 150 Hz flutter test film for 35 mm motion picture sound reproducers, photographic type (*first revision*).

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard specifies requirements for two test films for determining the presecne of flutter in 8 mm Type S motion picture magnetic audio reproducers, one operating at approximately 6·1 m (20 ft) and another at approximately 4·6 m (15 ft) per minute.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 1885 (Part 34)-1972* shall apply.

3. TEST FILM SIGNAL

3.1 Frequency

3.1.1 *Type 24 Film* — The audio record on Type 24 film shall be an original recording which will reproduce at a frequency of 3 150 ± 25 Hz when the linear velocity of the film is 24 frames per second or approximately 6·1 m (20 ft) per minute (102 mm or 4 in per second).

3.1.2 *Type 18 Film* — The audio record on Type 18 film shall be an original recording which will reproduce at a frequency of 3 150 ± 25 Hz when the linear velocity of the film is 18 frames per second or approximately 4·6 m (15 ft) per minute (76 mm or 3 in per second).

3.2 Distortion — The total harmonic distortion of the recorded signals shall not exceed 0·5 percent.

3.3 Audio Record — The location and dimensions of the audio record shall be as agreed between the manufacturer/supplier and the purchaser. The audio record may also be recorded so that it extends from one edge of the film to the other.

3.4 Recorded Level — The flutter test tone shall be not more than 10 dB down from the equivalent reference level of 3 150 Hz at 185 nanowebers per metre after correct equilization of 90 microseconds.

3.5 Flutter — The weighted peak flutter of the audio record shall not exceed 0·10 percent.

3.6 Azimuth — The azimuth of the audio record shall be 90 ± 5° to the reference edge of the film.

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*Electrotechnical vocabulary: Part 34 Cinematography.

4. FILM STOCK

4.1 The film stock shall be magnetic full-coat, splice-free of the polyester, safety type, and cut and perforated in compliance with IS : 9535-1980*.

4.2 The film stock shall be conditioned for 10 days at 27 ± 2°C at a relative humidity of 50 ± 10 percent prior to recording.

4.3 The film shall be recorded and packed within the temperature and humidity limits specified in **4.2** The recorded film shall be packed in a metal can and sealed either with a low moisture permeability plastic tape or a fabric tape having a moisture barrier.

5. STORAGE OF FILM

5.1 In case that triacetate film stock is used, it shall be splice-free and shall have a maximum lengthwise shrinkage of 0·50 percent when tested as in **5.1.1**.

5.1.1 At least 20 strips of film, approximately 80 cm in length, shall be cut for measurement of shrinkage. After normal development and drying at a temperature not exceeding 27°C, the strips shall be placed at least 6·5 mm apart in racks and kept for seven days in an oven maintained at 50 ± 2°C and a relative humidity of 30 percent. The strips shall then be removed, reconditioned thoroughly to 65 percent relative humidity at 25°C and the shrinkage measured by a suitable method. The percent shrinkage shall then be calculated on the basis of deviation from nominal dimension for the length of 100 consecutive perforation intervals given in IS : 9535-1980*.

6. IDENTIFICATION

6.1 Each test film shall be identified by a suitable identification marking, that is, leader, title and trailer.

7. CALIBRATION

7.1 Flux — The short circuit flux shall be determined by means of the calibrated short-gap for romagnetic core reproducer technique.

7.2 Level — The signal level specified in **3.4** shall be measured with an rms voltmeter calibrated in decibels with an accuracy of ± 0·1 dB over the handwidth 31·5 Hz to 16 kHz.

7.3 Reproducing Head — The test film shall be calibrated on a reproducing head.

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*Dimensions for 8 mm type S motion picture raw stock film.

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